IN THE CLAIMS

1 (Original). A method comprising:

illuminating a carbon nanotube with a first laser beam and a second laser beam transverse to one another; and

monitoring the effect on transmission of light from said first laser beam as the polarization of the second laser beam is changed.

2 (Original). The method of claim 1 wherein monitoring the effect on transmission of light includes monitoring the intensity of light transmitted.

3 (Original). The method of claim 1 including passing a carbon nanotube through a microfluidic chip.

4 (Original). The method of claim 3 including passing said carbon nanotube through a passage through said chip.

5 (Original). The method of claim 4 including providing a waveguide through said chip transverse to said passage and illuminating said waveguide with said first laser beam.

6 (Original). The method of claim 1 including trapping a carbon nanotube using said second laser beam.

7 (Original). The method of claim 6 including moving said carbon nanotube using said second laser beam.

8 (Original). The method of claim 1 including determining whether the carbon nanotube reorients in response to a change in polarization of said second laser beam.

9 (Original). An apparatus comprising:

a first laser;

a second laser;

an optical trap wherein said first laser and second laser extend transversely to one another;

a device to change the polarization of said second laser; and

a detector to detect the effect on light from said first laser when the polarization of said second laser is changed.

10 (Original). The apparatus of claim 9 wherein said device is a diffractive lens.

11 (Original). The apparatus of claim 9 wherein said detector is a photodetector to detect the intensity of transmitted laser light from said first laser.

12 (Original). The apparatus of claim 9 including a mirror to reflect light from said second laser into an optical trap in a direction transverse to the direction of propagation of light from said first laser.

13 (Withdrawn). A microfluidic chip comprising:

a substrate;

a waveguide extending through said substrate in a first direction; and

a passage formed in the surface of said chip, to transmit carbon nanotubes through said waveguide, said passage arranged generally transversely to said waveguide.

14 (Withdrawn). The chip of claim 13 including a set of at least two inlet channels to said passage to allow liquid and carbon nanotubes to be mixed in said passage.

15 (Withdrawn). The chip of claim 13 including at least two output channels to receive two different types of carbon nanotubes.